

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000787**Date Inspected:** 05-Nov-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 1430**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 2300**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sha Zhi & Xu Le Feng**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Mock Up**Summary of Items Observed:**

Elevation 89M:

The QA Inspector was present at the time requested to randomly observe welding and associated operations for the fabrication of the Tower Mock Up.

The QA Inspector randomly observed ZPMC welder Dai Lu ID Number 048659, utilizing the Shielded Metal Arc Welding (SMAW) Process with approved ZPMC Weld Procedure Specification (WPS)

WPS-345-SMAW-1G(1F)Repair, to make base metal weld repairs in the 1G position per ZPMC Critical Weld Repair (CWR) 019, to piece mark mp517-2 of 89M Strut Assembly MUSB-MA26-2. The QA Inspector observed ZPMC CWI Xu Le Feng monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 161 amps, welding voltage 23.1 volts with a travel speed of 127 millimeters per minute. Weld parameters appeared to comply with the above approved ZPMC WPS.

The QA Inspector randomly observed ZPMC welder Han Xiao Feng ID Number 054467, utilizing the SMAW Process with approved ZPMC WPS WPS-345-SMAW-1G(1F)Repair, to make base metal weld repairs in the 1G position per ZPMC CWR 020, to piece mark mp517-4 of 89M Strut Assembly MUSB-MA26-4. The QA Inspector observed ZPMC CWI Xu Le Feng monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 158 amps, welding voltage 24 volts with a travel speed of 112 millimeters per minute. Weld parameters appeared to comply with the above approved ZPMC WPS.

WELDING INSPECTION REPORT

(Continued Page 2 of 4)

The QA Inspector randomly observed ZPMC welder Wang Zhong Hua ID Number 053753, utilizing the SMAW Process with approved ZPMC WPS WPS-345-SMAW-1G(1F)Repair, to make base metal weld repairs in the 1G position per ZPMC CWR 021, to piece mark mp517-1 of 89M Strut Assembly MUSB-MA26-1. The QA Inspector observed ZPMC CWI Xu Le Feng monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 150 amps, welding voltage 23 volts with a travel speed of 107 millimeters per minute. Weld parameters appeared to comply with the above approved ZPMC WPS. The following photographs provide additional detail.

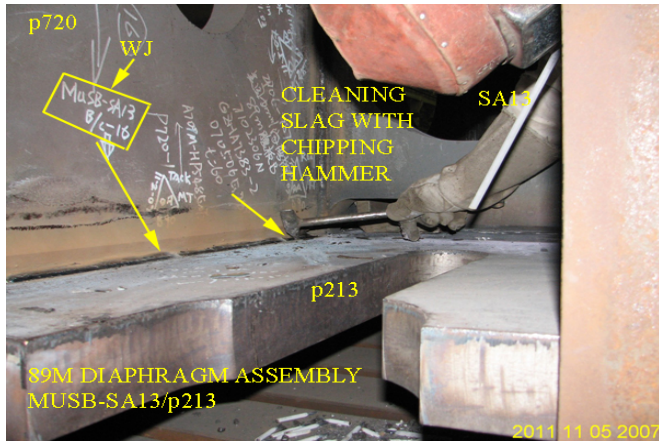
The QA Inspector randomly observed a ZPMC helper utilizing a grinder to cut off welds between piece marks mp517-3 and p1114-3 to allow for base metal repair per CWR 022 of 89M Strut Assembly MUSB-MA26-3. The following photographs provide additional detail.

The QA Inspector randomly observed ZPMC welder Zi Shu Qiang ID Number 053609, utilizing the Flux Cored Arc (FCAW)W process with approved ZPMC WPS WPS-B-T-2333-TC-P4-F, to weld the fill passes in the 3G position, to weld Skin Plate B, Sub-Assembly MUSB-MA24 cross stiffener piece mark p873, to longitudinal stiffeners mp531-1, mp531-2 and Skin Plate B. The QA Inspector observed ZPMC CWI Xu Le Feng monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 208 amps, welding voltage 27 volts with a travel speed of 120 millimeters per minute. Weld parameters appeared to comply with the above approved ZPMC WPS. The following photograph provides additional detail.

The QA Inspector randomly observed ZPMC welders Jin Rong ID Number 066471, He Shebing ID Number 066243, Li Zhengxu ID Number 066179 and Jiang Xiaohu ID Number 066155, utilizing the SMAW process with approved ZPMC WPS WPS-B-T-3312-TC-P5 and Excaliber E9018 electrode, to weld the fill passes in the 2G position on WJ MUSB-SA13B/C-15, 16, 19 and 20 respectively, of 89M Diaphragm Assembly MUSB-SA13/p213. WJ's MUSB-SA13B/C-15 and 16 were between web plate piece mark p720 and the Lower Diaphragm Assembly MUSB-p213. WJ's MUSB-SA13B/C-19 and 20 were between the Lower Diaphragm Assembly and web plate piece mark p721. The QA Inspector observed ZPMC CWI Sha Zhi monitoring weld parameters. The QA Inspector also performed random verification of the weld parameters and documented them as follows: welding amperage 249 amps, welding voltage 24.8 volts with a travel speed of 141 millimeters per minute for Mr. Jin and 250 amps, 23.7 volts with a travel speed of 146 millimeters per minute for Mr He. The QA Inspector did not have the opportunity to verify the weld parameters of Mr. Li and Mr. Jiang. Weld parameters appeared to comply with the above approved ZPMC WPS. The following photographs provide additional detail.

WELDING INSPECTION REPORT

(Continued Page 3 of 4)



Summary of Conversations:

There were no relevant conversations.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

WELDING INSPECTION REPORT

(Continued Page 4 of 4)

Inspected By: Franco,Charlie

Quality Assurance Inspector

Reviewed By: Cochran,Jim

QA Reviewer